Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-06-02-08** **Date: 04-06-2018**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP,
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.
Agency	:	Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.
Customer's Reference	:	BBMP/EE/BTP/WO/01/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-06-2018
Sample ID No	:	2018-06-02-08 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	02-06-2018
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.45	–
2	Finess by Air permeablity method (m^2/kg,Min)	285.4	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	28.0%	Not specified
5	Initial Setting time	170 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

AE(L2)

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

CIVIL Pro Sig..... Date..... BANGALORE

****End of Report****

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-06-02-08** **Date: 30-06-2018**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.
Agency	:	Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.
Customer's Reference	:	BBMP/EE/BTP/WO/01/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-06-2018
Sample ID No	:	2018-06-02-08 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	02-06-2018
Environmental Conditions during test	:	Temperature: 26˚C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	27.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.5N/mm^2	Not less than 37 N/mm^2
2	28 Days	56.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-06-02-08** **Date: 04-06-2018**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.
Agency	:	Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.
Customer's Reference	:	BBMP/EE/BTP/WO/01/2018-19
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	02-06-2018
Sample ID No	:	2018-06-02-08 /02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	02-06-2018

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	232	232	1.5	98.5	90-100
3	20 mm	5334	5566	37.1	62.9	30-70
4	10 mm	4665	10231	68.2	31.8	10-35
5	4.75 mm	4355	14586	97.2	2.8	0-5
6	Pan	414	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-06-02-08** **Date: 04-06-2018**

Sample ID No : 2018-06-02-08 /02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.7	
3	Specific Gravity	2.69	_
4	Bulk Density(Loose) (Kg/l)	1.49	_
5	Bulk Density(Compacted) (Kg/l)	1.54	_
6	Water Absorption(%)	0.24	_

Note:
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Quality Manager

AE(Ex-I)

Assistant Executive Engineer
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Yelahanka Zone, B.B.M.P.
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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-06-02-08** **Date: 05-06-2018**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.
Agency	:	Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.
Customer Reference	:	BBMP/EE/BTP/WO/01/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	02-06-2018
Sample ID No	:	2018-06-02-08 /02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	02-06-2018

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	248	248	5.0	95.0	90-100
3	10 mm	2654	2902	58.0	42.0	25-55
4	4.75 mm	1780	4682	93.6	6.4	0-10
5	Pan	318	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-06-02-08** **Date: 05-06-2018**

Sample ID No : 2018-06-02-08 /02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.6	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.51	_
5	Bulk Density(Compacted) (Kg/l)	1.55	_
6	Water Absorption(%)	0.22	_
7	Aggregate crushing Value(%)	22.8	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	21.9	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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R KARTHIK RECHAN
Authorized Signature
Quality Manager

AE(WS)

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-06-02-08** **Date: 05-06-2018**

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.

Agency : Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.

Customer's Reference : BBMP/EE/BTP/WO/01/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 02-06-2018

Sample ID No : 2018-06-02-08 /03

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1; 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 02-06-2018

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	84	84	8.4	91.6	90-100	90-100	90-100	95-100
3	2.36 mm	144	228	22.8	77.2	60-95	75-100	85-100	95-100
4	1.18 mm	168	396	39.6	60.4	30-70	55-90	75-100	90-100
5	600 micron	179	575	57.5	42.5	15-34	35-59	60-79	80-100
6	300 micron	187	762	76.2	23.8	5-20	8-30	12-40	15-50
7	150 micron	157	919	91.9	8.1	0-10	0-10	0-10	0-15
8	Pan	81	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-06-02-08** **Date: 05-06-2018**

Sample ID No : 2018-06-02-08 /03

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.19	–
2	Specific Gravity	2.58	–
3	Material finer than 75 micron(%)	5.2	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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Asst. Executive Engineer
Sub Division
Zone, B.E.

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Date.....
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TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2018-06-06-17** **Date: 08-06-2018**

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.

Agency : Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.

Customer's Reference : BBMP/EE/BTP/WO/01/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 06-06-2018

Sample ID No : 2018-06-06-17 /04

Sample Type /Size : 200mm thick Precast Cover Slab

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete

Date of test : 06/06/2018

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	150.01	200.11	2.890	17670	278.6	15.8	14.7	18.3
2	Cover Slab-2	150.05	200.09	2.885	17680	278.2	15.7	14.6	18.3
3	Cover Slab-3	150.04	200.21	2.854	17678	279.3	15.8	14.7	18.4

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Applied. N.D
AE(Rd)

Executive Engineer
Sub Division

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-06-21-06** **Date: 25/06/2018**

Customer : Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.

Address : Byatarayanapura Sub division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.

Agency : Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.

Customer's Reference : BBMP/EE/BTP/WO/01/2018-19

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 21-06-2018

Sample ID No : 2018-06-21-06 /01

Customer ID : PCC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/06/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	18/06/2018	25/06/2018	150.05 X 149.26 X 151.52	22395	8.546	279.9	12.5	12.5
2	PCC	M15	18/06/2018	25/06/2018	151.49 X 149.25 X 150.53	22610	8.148	289.4	12.8	
3	PCC	M15	18/06/2018	25/06/2018	149.64 X 149.86 X 151.70	22424	8.296	273.6	12.2	

Note:

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2018-06-21-06** **Date: 16/07/2018**
Customer	:	Assistant Executive Engineer, Byatarayanapura Sub division, BBMP, Bangalore.
Address	:	Byatarayanapura Sub division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in Jakkur Colony and surrounding area in ward No.7, Byatarayanapura.
Agency	:	Sri. B.M.Muniraju, #432/A, Unnati Nilaya, 1st Cross, Shivashankara Block, Hebbala, Bangalore-560024.
Customer's Reference	:	BBMP/EE/BTP/WO/01/2018-19
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	21-06-2018
Sample ID No	:	2018-06-21-06 /02
Customer ID	:	PCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M15 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	16/07/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	18/06/2018	16/07/2018	151.42 X 150.35 X 150.28	22766	8.175	382.5	16.8	17.3
2	PCC	M15	18/06/2018	16/07/2018	151.44 X 150.39 X 150.25	22775	8.198	391.7	17.2	
3	PCC	M15	18/06/2018	16/07/2018	150.47 X 150.66 X 150.69	22670	8.135	405.8	17.9	

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R KARTHIK RECHAN
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Assistant Executive Engineer
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